

Brasil 1976

3°

29c



NOTE BOOK

75 SHEETS

No. KB-3387

No. KB-3388

TOP OPEN
SIDE OPEN

2407. - altitud no mado.

Bahia - Brasil. 1976

3^o sôfari

Alseodaphne foliata

Mun. Bafanade - Km N
of Bafanade city.

On big bamboo growing
in "savanna" - note tips
of large trees, just
quite dense and intact.
But not the thick
"cifs" - sandy soil - 3^o

Tree: abundant; small
5 m. tall. 1. *Alseodaphne*
Impatiens - *Impatiens* - large
There 3 are very common
in the forest. *Alseodaphne*
but for large
proportion.

K, Mo, NY

May 6, 1976

2408

Atractantha felix

Mun. Esplanade - Km N
of Esplanade city.

Slender bamboo growing
in "circular". Note tips
reticulate - low trees forest
quite dense and untamed
but not as much as
"cipo" - sandy soil - 3'.

Trees - ~~shrub~~ + ; araca
of murto ; Mithosace.
Impatiens : Lepanthes bealii
These 3 are very common
in the forest.
Also some but few large
bromeliads.

Forming ± small nodules,
but sometimes
at base or arching at
base over trees and
rept. Hard to see!

Blade white with ven-
ular structure, but not
ring of holes.

Blade appears below
node on lower part
of plant. cylindrical
slightly twisted, smooth
blade sheath persistent
until rotten on lower
culm. A little asplous
or pubescent in young
smaller branches.

Blade very narrow, long
reflexed, soon deciduous.
on the ± long (but not many)

oral utae - In young
shoots, with white
hairs, utae,
Edge of sheath overlapping
and standing open.
Dying very soon the edge
the base ± longer or longer,
starts separately from
sheath.

Node not prominent
with several prongs
on both of culm
near node.

One main axis, repeats
base, ~~the~~ base being it
felling or trying to let
see the repeated base.
One or two → usually
broken on both sides
There are also nodules

leaf blade narrow on
edges and a little also
on sheath. Narrow
leaf + small not
very long, up to 13 or 14
cm long. Sheath of
leaves, thin, yellow.

Old or mature culm,
thin, ± yellow.
All plants but a few
clumps in flower!
Flowers arranged
at end of branch
complete at nodes
long, thick and curved
pseudospike.

Spike: green when fresh
and young, turning a little
dark or greyish dry colour,
none or all? of sheath

of less developed in
pseudospike.

Diagram of a branch with nodes and internodes.
Nodes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
Internodes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
Lengths: 1.60, 1.90, 11.50m.
Fold length of
internode.
2 internodes: .65cm, .68
the longest.
Diameter: .8mm - 7,
less than 1cm -
3 or there seen - dark
violet - 2 stripes? or 3.
Alt: 120 mm - (110 in
the morning, 150 in afternoon)
Roots with ring of air canals.

not sure of no

Photo B & W. vol #53 - (1 to 31)

Ektachrome: vol #54 (1 to - 23+)

FAA: 1 large $\frac{1}{2}$ with apical -

1 with buds, 1 - leave,

1 with roots and culms

Long - 1st large apical -

3:1 - " " (6 nodes)

culm here, germinates

rhizome collected

living plant. also -

Duplicates

US, Ceflac, Tupo, S.I, Kew,
Leningrad, Paris, Berlin, Canberra
Pretoria, Tns Tokyo, and N. York

Reddish - yellow - 2045

May 7, 1972 - 0145

W. 1145

May 14, 1972 - 5145

May 14, 1972 - 5145

May 14, 1972 - 5145

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May 14, 1972 - 5145

May 14, 1972 - 5145

- 2409 - *Roddia*
 2410 - *Streptopogon*
 2411 - *Olyra sterilis*
 2412 - *Lichnanthes*
 2413 *Atractantha*

Roddia 2409
 May 7, 1972

Men. de Eplanada -
 strada para fazenda
 18 Km N. of Eplanada city
~~at~~ intersection road with BR101
 on right side of road for W.

Alt. 140 m.

Beautiful tall trees forest
 dense, very dark. on
 sandy soil. This is not
 elevated but quite similar
 to monte Litorence. Very
 dark inside. Primary
 forest, only few places
 where trees cut down
 but ~~no~~ no weeds seen.

Abundant and common
throughout the forest.
in some places forming
carpet, the

most plant is rather young,
or ~~is~~ bright green.

Few in some places
very tall with many
old, branched inflorescences.
Most of the plant flowering.
In some places growing
together with *Olyza* sp.
and *Streptopogon*.

I think this is the
same *Rodinia* I collected
in 1972 in Japaguare.

Photo: B. & W. roll 53 from
32 to end. and roll #55
from 1 to -
(all with flesh)

Ektachrome: roll #54 from
23 to 24 to end (all with
flesh.)

FAA: 3 (fl. ♀, fl. ♂ and leaves)

bag 1 -

3:1:1 ♂ in fl. - (5 vials)

May 7.

2410

Streptopogon americanus

Mm. & Mre (see loc.)

Det. 140 mm

In +kuse, Lark, primary
front of sandy soil.
similar to note ~~the~~
litorene.

In Lark flows of port
common, more in
smooth slope of \pm creek.
~~Photo~~

Photo. B. & W. roll #55, with
on after Roddie (with
plant)

Ekstads - roll 54. (with
plant to end of roll.
very few.

FAA: 2 vials (inf & long)
Long. 1 "

Duplicates sent to:

S. I., Kew, Kew, Berlin, Paris,
Lentore, Pretoria, Tokyo, N. York.

May 7 2411
Olyra sp.?
M. & M.

Alt. 140 m.

^{in fruit}
± scarce and very at hand
but here and there
forming small clump
with Rodolia and in
places with Steptopyne
seems to be Olyra, only
2 found in flower
found.

Very striking of leaf
at plant in sand

flat. Those forming
proton from leafy
a large or quite deep
leaf complement the
triple of delicate, narrow
leaves, and next to
them other of
much larger and
very asymmetric base leaves
and widely open on
culm.

FOA only leaves -
no photo -

May 7

2412

Ficus thuyae *memoralis*
(Schrad. & Schultes) Hitchc. & Thos.
Det M. T. Hickey
Mun. Muna,

140 m. alt.

Quite common on primary
forest, + abundant on
steep slope of trail or
forest.

Growing with *Proelia*

No photo - FAA: 1 vial
+ flower & leaves.

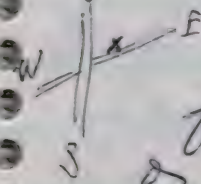
K

May 7

2413

Atractantha petrole?

Mun. de Esplanada?, 14 Km
N of Entre Rios, on
road ^(highway) intersecting BR 101
across from Fazenda
Lapoa ~~for~~ Preto



Abundant on dense
forest of low trees
or tall savanna type
Flowering profusely

Photo: few B & W - roll # 55

May 9, 1976

2414

Panicum?

Mar Le Mucage', 26 Km S of
Andaraí. on road to Mucage
city

Alt. 1050 m

Infrequent on rocks between
mosses with water running
over rocks - Near top of
river

May 9

2415

Velloziaceae Vellozia

Mn. Mucugi, on road from
Andarai - Mucugi - 29 km
S of Andarai -

Alt. 1050 m

Common in plots of
montane, (probably 10%)
soil sandy and rocky
forming dense scrub
clump. Flowers violet
- deep red color, stem
& stipules bright yellow -

FAA. 1 inch leaves 2
? flowers
no photo

May 9.

2416

Cratogeomys rufescens Schrad. ex Schult

Mn. de Mucugi - 29 km
S of Andarai on road
Andarai - Mucugi -

Alt. 1050 m

Common on rocky soil
of top of mountain

FAA. 1 inch leaves and
uphol.

2417

Eragrostis supererectus Schrad. ex Schult.

See also -

leaves long willows
on road here &
the other (2416).

2418

Palms

Synagrus

Mt. de Mucuzé - 2 Km
N of Mucuzé city, on road
Mucuzé - Andaraí -

Alt. 950 m. - 1050 m.

Abundant all over the
mountain, I flower only
on high part, on the
top -

Flowers yellow -
Duplicata, Bolivia, I go and
Field Museum -

2419
Velloziaceae *Barbassia*

2 km N of Mucuzi - on
Road Mucuzi to Andaraí

Alt. 950 m.

Growing on rocks on
near the top of ridge
on some moss. Bract-like
bracts. Calyx
Few flowers. Flowers
copper red color.
Sticky leaves

FAA: leaves only.
Rather small plants

2420
Velloziaceae *Vellozia*

1/2 km ~~to~~ Mucuzi
7 km N of Mucuzi
city on road to Andaraí

Alt. ~~1025~~ 1025 m.

On terra Andaraí.

Mucuzi - common on
flat top of ridge.
Flowers blue-violet
narrow leaves, small
plants.

FAA: Flower & leaves

2421
Velloziaceae Vellozia

Alt. 1025m

Shrublet on top of rock
and on ^{lower} slopes
Flowering only in this
part of Anderton
On rocky and sandy
area with other
Velloziaceae, Orobanchaceae.
alt - flat about 80-150m tall
Flowers large violet blue
(lighter shade than the 2420
(the smaller one))
FAA: large

2422
Orobanchaceae

Mon de Mucage' - 7 Km N
of Mucage'

Alt - 1025m

Common on top of rock
with many Velloziaceae.
Leaves fleshy.
Flowers pink - white

2423
Oreganaceae

Flowers yellow-green
dark magenta, with
white. Inflorescence
pendulous - that as
common as the other one
2422.

2424
Velloziaceae Vellozia
m. y.

Mr. de Muenzi - 7 km N of
Muenzi on road to
Andaraí

Alt. 1025 m.

Common on rocky top
of reserve along with
many other Velloziaceae
to some not collected
no flowers. ~~rocky soil~~
~~rocky soil~~. On rocks
with little rocky soil
pale flowers - only
1 my collected -
FPA - leaves -
leaves sticky, purple

2419

Panicum cumbucane Renv. !

2425

Panicum leucoblepharis
det. R. Pohl.

Min de Mucunze

Common on rocky soil of
top of sierra, forming in
small patches under
Velloziaceae & other plants

Panicum rectissimum Mey

May 11

2426

Panicum (small sp.)

Min de Rio Andaraí - rio
Correio Fundo, ± 15 km
NW of Andaraí city
(river, up in the mountains
in a valley, on Serra
do Sincora).

Alt = 475 m.

Common in rocky soil
near stream & under
other small plants -
FRAH

FRAH: 1 nat with
leaves & spikelets -
no photo -

May 11

2427

Palm

Geonoma brevispata Barb. Rod.
Mun. de Andaraí - Serra
do Sincora, rio Corrego
Fundo, ca. 15 km N.W.
of Andaraí city.

Alt. 475 m.

growing only at edge
of river, near water-
fall, upstream, in
a small rocky valley
small palm, up to
1.50 m. pett. with
flowers (yellow?) and
fruits.

Common name: Jusera
no foto, no PRA -

2428

grasses.

Mun. de Andaraí, Serra
do Sincora, rio Corrego
Fundo, ca. 15 km N.W.
of Andaraí city.

(part by ~~old~~ car to the
end of road, then \pm 3
hours walking)

Common up in the
slopes and near
river.

Alt. 475 m.

forming thick, big
clumps. ~~on~~ on rocky
slopes - We also saw it

on higher slopes.

On this slope and also on top of other part of terra de lincos between Andaraí and Mucayé - we did not see any bamboo or bambusoid grass.

About are many sps of Velloziaceae small, reddish, but some of them ~~flor~~ ^{fruits} could be taken as a "small bamboo".

Also of very common is a tall, pretty Cyperaceae. Not in ~~the~~ this area

also the Gramineae - ~~some~~ are also several Oenitaceae, & some bromeliaceae and many ~~as~~ many beautiful plants almost all in flower.

Velloziaceae alone are more the 6 - at least we collected 5 or 6. But there ~~are~~ were some others & not in flower.

May 11 2429
Otaguiteae.

Mun. de Andaraí - terra
to Simcorá - no limite
Fundo, ca. 15 Km N.W. of
Andaraí city -

Alt. 475 m

Forming thick clump
on rocks with dirt
without soil - at
edge of river on
the deep creek -

Flowers small, orange
color -

leaves thick, fleshy -
no photo, no PPA

2431 - *glabro* K, MO, NY, P, LE, B, F, G, W,
2432 - *glabro*

May 12 2430

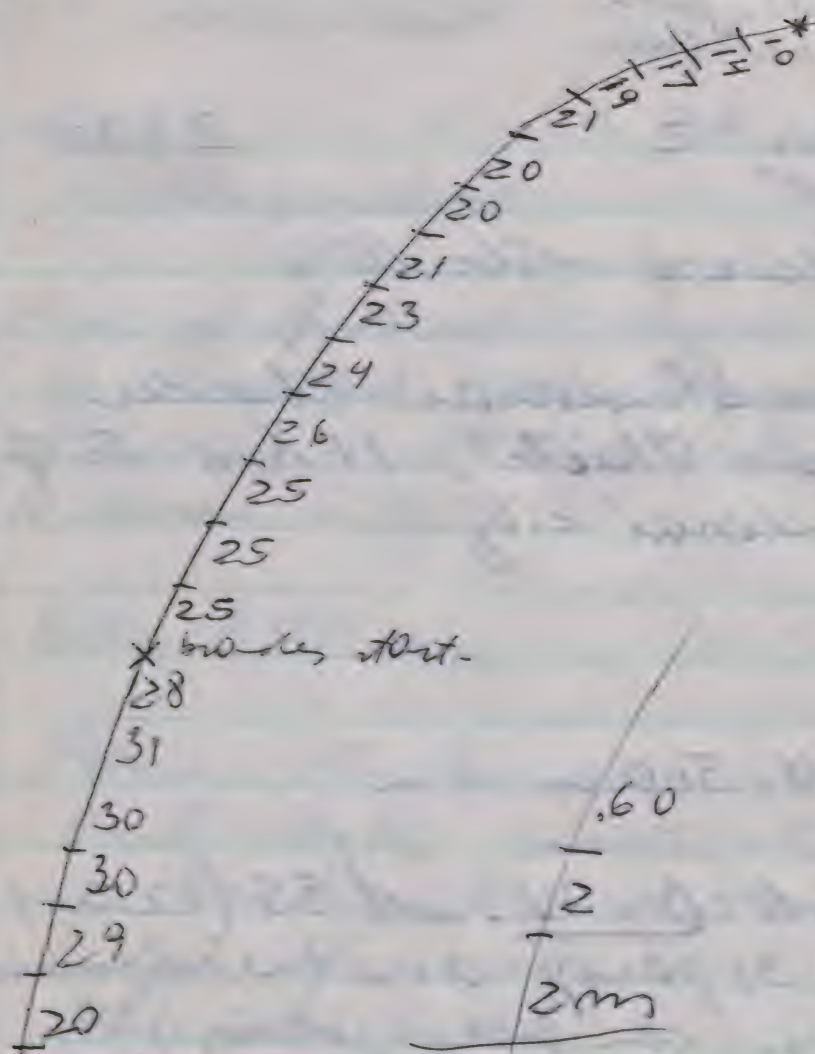
Tecunare reticulata.

Mun. de Andaraí, strada
para Itaeté, 11 Km S of
Andaraí city -

Alt. 500 m. s. m.

Photo: B & W - roll 55 (± 2-3 up
to 31 passage verso Linco, white
eyes, com fillos rotang -)
from 31 to end. and roll 57
from 1 to

Ektachrome: Roll 56 (from 1 to 5
passage verso Linco, white
eyes & pic) Tecunare from 6 to end -



up to 4.60 m. one looking
very tall.
stems 1.4 cm - 0.8 cm

culm fine, collected
garruchos collected
rhizome collected
lining plant collected -

FAA: 4 rats:

leaves from top - bare
from regular branch comple-
ment. bud complements;
culm pieces -

Abundant in the
area and from ...
km from Adare
as on the road and
in "desno".

Growing in low trees
formation, ± like a
dense cerrado or a
low forest. It is tall,

and more dense than
the ecotone ~~forest~~
It is not a ~~mate~~
cipo either, ~~there are~~
and so many ~~there~~
and not used ~~by~~
Bomalia and ~~by~~
cactus. Probably a
transition forest between
the dry ecotone of
the lower parts and
the ~~repeated~~ of higher
altitudes.

Worky. \pm sandy soil
and ~~so~~ ~~not~~ ~~in~~
open but very smooth
slope.

Very abundant, young
thick clumps mixed
with trees and

shrubs, few herbaceous
plant seen, very dry
type of forest. But
both very happy and
green.

~~There~~ Small bamboo
up to 4.60m high.
At forest the bamboo
exhibit mostly the
full branched form
as a regular ~~Herbert-~~
dry. Few clumps seen
in other part of the
wood which still remain
a few old culms of
the unbranched type
the one used to make
fleshers.

Leaves start growing
 \pm pretty high, in the

one measure at 1.60mm
bulbous part very green
and smooth all the
way, light green
to dark green, and
mottled with ~~an~~ ^{apex}
covered by a sort of wax
only green visibly
when cut with
shears, falling ~~a~~ like
talcum.

Diameters 0.8-1.4mm
or less. solid, with
very thick, very hard
outer part and center
filled with dense
pith. white, ~~soft~~, ~~can~~
can be separated with
nail
but sheath ~~on~~

very smooth drying
very soon and falling
soon. Only seen of
new culms, already
dry, light beige color
and with sides often
black broad lanceolate
perforations to sheath
or slightly reflexed or
slightly cup. Only
on few terminal
ones it is \pm erect.
Outer setae \pm united
forming a band, only
on top of edge
sheath very hard, opaque
outside, light inside.
Part of the culm
with all the bark
completely developed

with round, small
leaves. Culm ending
in 1 ~~leaf~~ ^{leaf} ~~leaf~~ ^{leaf} ~~leaf~~ ^{leaf}
of leaves, white leaves
also very hard,
at least under the
small ones

Node with not
framing ridge
± dark band on
node.

But complete.
Heretofore style, only
with several to
many bud scales
seem brown the ones
on lower part of
culm with several
buds. One ± larger
prophyll for all.

Nodes very close together
short internodes.
Specially the top of
culm where internodes
are very short. ± 2-3
very short.

Culm with full sheath
here ^{just when small} ~~leaf~~ ^{leaf} ~~leaf~~ ^{leaf}
and
being over repeated.
In some places large
ones about half of
bottom - brown on
the same part a
small palm, called
"coco de barona".

Johnanthus bambusiflorus (Trin.)
Doell. det. M. T. Hieser.

May 12

2431

Johnanthus ?

filose

Mun. de Andarai, estrada
para Itaité, 11 km S of
Andarai city

Alt. 500 m

In dense canopy or
low forest with *Tacca-*
re verticillata as domi-
nant. In remnant
flora under the bamboo
sheath and leaves
long hirsute.
Large terminal inflo-
rescences. Plants up to
3 m tall.

no photo.

FAA: 2 vials one flower
one leaf

Det. H. T. Hickley-

May 12

2432

Eleocharis bambusiflora (Trin.)
Mun. de Andaraí, estrada
para Itaité, 11 km S
of Andaraí city

In dense cerrado or low
tree forest with
bamboo (*Tanacetum verticillatum* as dominant)
Under or mixed with
~~other~~ ~~sp.~~ in the sam-
son and other plant
In semi-shaded place
growing near the
paved form. Is it the
same?

F.A.A. 1 not less a
flower -

K, MO, NY, P, LE, B, F

2433

Bamboo (Guadua)

Município de Andaraí -
Estrada para Itaité
km S of Andaraí
city

Alt. 360 m.

A more or less small
patch of Guadua
in open tall grass
and dry forest or
tall cerrado forest
with sandy soil.
~~Form~~ and looks
Form a ± dense clump
with culms rather
close to each other

Stem up to 2.5cm
in diameter, with
thick walls.

Not ± flat or little
depression on side of
main branch.

Surface smooth,
green, with some
white patches or lines
on main stems.

Stem sheath falling
very soon. Dry

foliage beige or light color
with long, big, loose
triangular, containing
the sheath without
separation. A line

or separation between
them, sometimes
loose fall first, (it's

a line of abscission.

On thinner & culm

or higher up in
plant 2 nodal
ridges marked.

On lower part no.
Typical nodules with
base of leaves

branches full of
spines, 3 per node

On lower $\frac{1}{3}$ branches
are not developed

but only thick
hooks or spines.

Leaves narrow, not
rather small, scabrous
on edges.

(but sheath very smooth)
One main branch

per node and one

Stems, rather short, to just
28 cm.

Spine or brach on
sides.

On higher branches
no spines.

They say this name
of *gubus* not more
abundant in some
other places not
far or within the
region.

Photo. B & W - end of
roll 57 & 58 (for 1 to
Ekto: roll 58 (for 1 to
 $1\frac{1}{2} \pm 17$).

FAA: 2 nyl: leaves &
buds - [also fruit
and panicles -

2434

Austrodo longifolia Trin.

Alt. 360 m.

growing on dry dense
scrub or forest of
transmission, along
trail and rather
disturbed places.

FAA: 1 vcl with
leaves -
no photo -

May 13, 1976.
Merristechy

May 13, 1976.
Merristechy

Mun. de Andaraí, Serra do
Sincora, Estrada Mucuzé -
Itaeté, 27 Km from Andaraí -

Alt.: 800 m.

~~2~~ lanes start
1.70

11.70

78 cm, 67, 62 cm. internodes.

4 cm. 1.5-2 cm.

Robust Heritiera, forming
dense, big dense infest
with the trees of forest
below forest they bend
high up. and arching
over trees.

Difficult to measure one
full plant. 12-15 m +
m. high.

Internodes long. from
62 to 80 cm \pm long.
hollow but thick
walls.

Mature parts on
lower to mid part
surface smooth, shiny.

Mid culm and upper
parts of culms generally
appressed, "life," on
upper part of inter-
node, from $\frac{1}{2}$ to
~~below~~ below the node.
Node without thick
ring but the base of
sheath remains attached
to node.

Culm green, on upper
part of internode
mottled green, showing
a little yellow at
full maturity or light
green.

And complement in
typical sheath fashion
from very young
with many branches

in two or 3 rows -
In full developed
plants we count up
to 94 branches -
when developing from
buds cover by several
short bracts at base
bracts quite thick
but sheaths thick
green and striate, long
large scale, minute-
reticulate on lower
part especially when
young hairs white
these are thick-laid;
bright inside -
blade broad lanceolate
acute reflexed
folding when dry.

leaf complete quite
large - leaves, on young
on edges, ± broad
medium size - large -
And also in young
leaf early, dark
copper color - The
same on older
leaf - but longer -
Plants are quite
more erect than
other Heron. var.
at least erect for
8 in or so - steep
growing in ± level part
of transition type? On
lower slopes of mountain
near or ± not far
from river, There are
the slopes of a white rocky

FAA: 2 vols, 1 reg. note
 with list, 1 decr.
 rhizome collets
 juvenile & culm pieces
 living plant - collets
 plots V 5 x W - ± 10 of well
 58 and well 60 (1 to
 (with flesh - mostly)
 Ektachrome - well 59, for 15 \pm
 to end, with flesh
 mostly.

MO, K, NY, P, WLS, F, LE, G,
G, W.

Actinocladum

May 13, 1976

2436

Tacuara sedicicola

Mun. de Itaité - Fajardo

Salubrim, on roadside

Andaraí - Itaité - (on

lower slopes of serras

de São Simão -

(~~located at Itaité~~ Marge rd 30 km

26 km SE of Andaraí -

Alt. 600 m -

n. v. "tacuari"

† Jussieu's *Costelhae* Lemo

~~Waggoner~~
FAA: leaves 2 nals large &
small. Sals 1 nals -
also 1 nals. (4 nals)
germinated, also 1 nals
rhizome collected.
Living plant collected

Photo: B & W. roll 60. \pm lat
10 & 15 - and roll # 62
 \pm 1 to 20 nals.

~~Bentham~~ Kodachrome
roll # 61 (Uch #)

Very abundant, both
form, but in this
area especially the
low, 30 ft. form.
Form thick, large
clumps of low form
mixed with many
many new shoots
coming up from
the thick clumps.
New also usually
low, some up to
2 m. (few), usually
1 m. \pm
leaves - form not
very erect, up to
1 m. or so like
now.

Broad leaves beautiful
in large leafy clump.

not coming up
freely from
The stalk of these
one thin but with
nodes & internodes
some of them
specially those below
the leaf compl.
start, growing. All
of these nodes have
buds, very small
leaf thick, turf-
with \pm a minute
with oral setae -
color of leaves ash
blue green -
New culm covers
with the dry, almost
hanging culm sheaths
pushed away for the
dry

Developing buds.
Sheath smooth, the
glabrous, hard, white
brittle - with black
lined triangular
horizontal to little
erect or curved sessile
like Atractantha $\square \square \square$
Black extremely
deciduous.
Most of the buds
at growing. Many already
with small rosettes
like a Rostachya.
In those I. or even in
very new culm
the top of culm with
a bunch (1 to 2) deep-
complex of \pm large
leaves.

Buds start developing
from top to bottom.
Base of developing
buds or buds covered
by thick, stiff bracts
much more than
any Monticola -

New bracts on
waxette giving normal
small narrow leaves
culms smooth, glaucous
covered by white wax
near base where cut
culm solid, thick
wall filled with \pm
soft to medium with
few new culms very
thick \pm hollow -
Base of new form (bushy)
with burned pieces

of culm. The new
ones coming around
then fall back in
a slope, mostly
giving long stalks with
big leaves, some shorter
giving small, narrow
leaves. (Do they give
wax?) -

Near to this culm
or nearly up full
buds and some
~~normal~~ culm of
normal form. Old culms
I had with branches
complete of
many branches -
This tree is in a
relatively more humid
slope, but cut and

with 2nd growth.
+ low trees and
shrubs or open
place.

Actually this low (bushy)
forms are not
culms but branches
growing erect and
elongated looking
like culms. The
main culm burn
and lateral ones
growing up. Late
the rhizome (not
basal buds) will
give the thick, new
culms. In this case
rhizome both are produced
for the rhizome -
by.

May 15, 1976

2437

Ficus ~~the~~ hirtus (Raddi) Rose
Mm. ~~de~~ Japurá, BR 116, Km ^N 42, [±]
Jequie, Mato Grosso

In Mato Grosso
transitional type of
forest between campo
and humid upland.
Not common in
± dark forest of
forest, at forest
very ^{dry}

[^{nodes} leaf are not as densely pubescent
as on typical specimens)
west of M.T. Hites.

KNO, NY, R, DE, B, F, G, W, ISC, WKS,

May 15
Roldia

2438

Mm. de Japurá,
Rodovia BR 116, 42 [±]
Km N of Jequie

Very abundant in
Mato Grosso, at
forest very dry.
Dense transitional
forest at edge of
Katinga region.
tall trees with many
branches on cipo and
big, terrestrial Bromelia
flowers all over, but
not near the
beginning of forest. Very
red deep inside, not

no abundant and not
flaring.

Tall, ~~the~~ riparian form
.80 m or so more
high. Spel of flower
V of both sides
sides on base and
mid part & top
on $\frac{1}{3}$ up σ in
parallel. No relation
apparently between
more production
of σ and age of
plant. I saw the
in small young plant
and tall adult
plant. Presumably is
the present condition
at the time for this
kind of flower. Both

are abundant. Many
of age with tips
out having beautiful
leaves = large, oval
smooth, glabrous
looking so. Thick
base of plant
may clump with
rooted meadow weed
above ground.
In disturbed area
growing happily.
Looks like the
same sp. of *E. platanifolia*.

FRA: 1 inch σ & ϕ sp. l.
1 inch leaf & roots
Bag - 1 v. with 100 sp.
3:1 - σ sp. l. (4 vials)
trip part collected

Photo G x W. roll 62
from 16020 to
end and 64 from
to 16

Exposure: roll # 63
(from 1 to 15 or 16)

May 16

2439

Bombura (Guadalupe)

Man. Jaque, Km ~~10~~
East of Jaque, city on road
to Spain.

Alt. ~~125~~ 125 to 175 m.

Very abundant on
good tall forest on
slope of hill.
Mixed with very tall
trees. Robust, huge
bamboo, 20 m or
more.

Leaves great for use
than 8 m, then
bend and sticking

with handles.
Diameter 7-8 cm or
more. Culm hollow
thick walls. Both
green. Young covered by
white hairs.

Nodeal ridge with
2 ridges, white band
between them, (not
very prominent or
flattening the upper
ridge).

Culm sheath very
big, wide in the
very short, tripartite
blade covering the
sheath. Sheath thick
tuff covered by fine
dark hairs. Falling
soon.

One main bud and
bud x node,
On lower part, if
growing, nodes covered
by spines, 3 x nodes
Rhizome compact

1 thick bud ring
one bud on a side
and soon above or
opposite or another
bud. Both one
with one spine on
each side.

Leaf compact
very big, with many
leaves. Blade type
very large, broad lance-
olate. They roll up
very well after

cutting the bushes
white/and rose.

cutting with water
inside -

Bushes (1' or 2') rising
several meters over
trees, climbing, 5m
or more high -

Very pretty. Saw two
glowing in large
clumps, not very
dense, (I can walk
between the clumps)
New shoot going
out several meters
high.

garage collected
also here "

FAA: 2 nals, one with
but and 1 with legs

Plots: B, W. roll # 64

from 16 to end -

E. H. Adams roll # 63

from 15 to 16 to end -

May 12

2440

Ischnanthus lancifolius
var. *weberbaueri* (Ney) Hitchc.

Monte Jequie, Km
E of Jequie city on
road to Ipiaú

Alt. 175m.

Abundant in forest
in dark place. Tall
trees and huge gnarled
forest. Humid type
of forest.

Forming dense cover
of all but pure forest.
No one with flowers.
only few just infl.
FRA: leaves - no photo

JB6E

Ar. linguatensis 722

2nd edn 6654

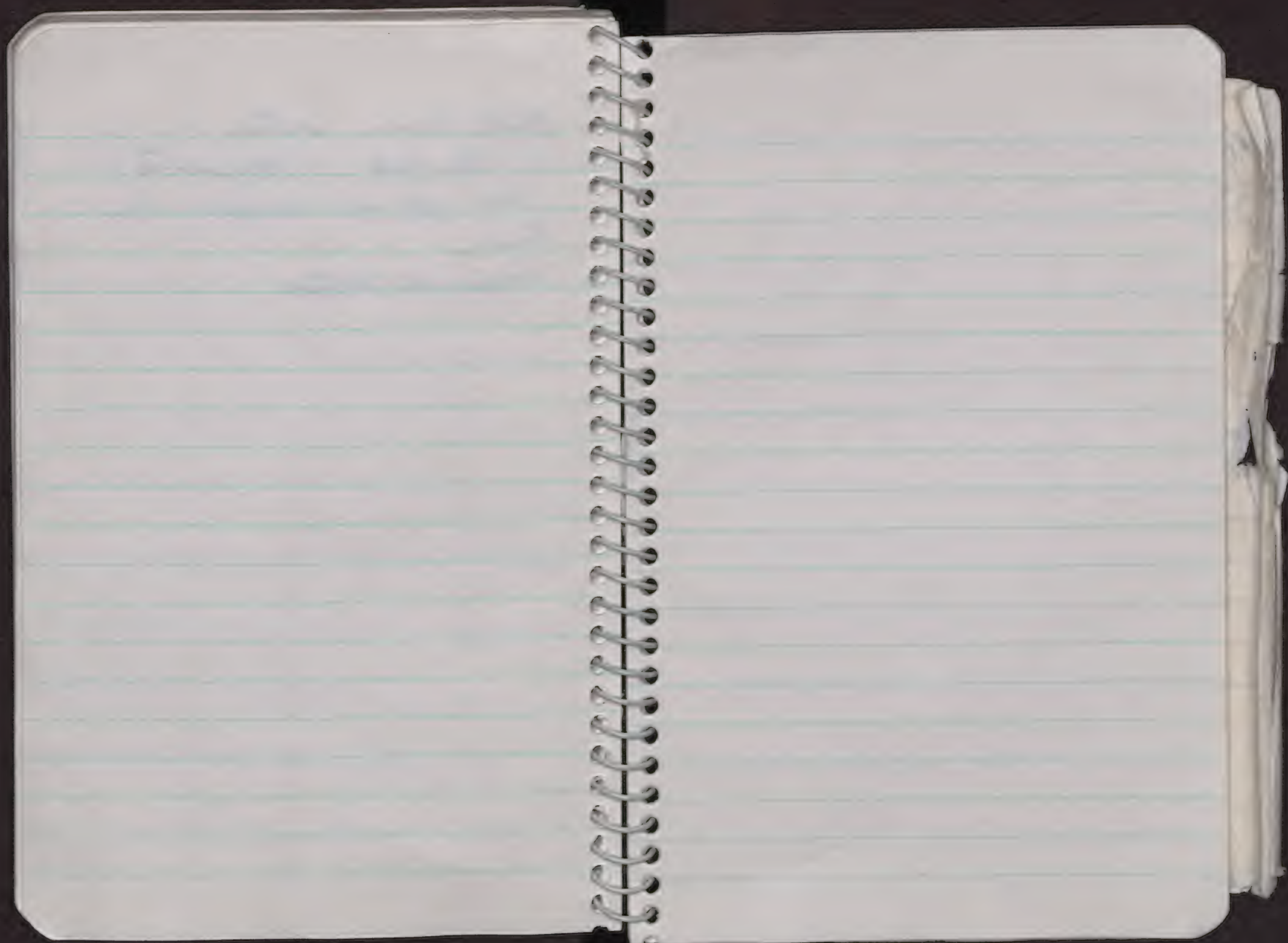
Meta Grass station:

Arapuca (Aripuanã)

Set NE and Araguaia river

Pará -

Biological station



A packet near home

49 y. for large parts

the other, a small part

50 y. 14 Nov. 1877 Extra No.

634 (the whole R. 1877)

14

—

—

Dr.

Tomlinson

Fairchild Botanical Garden

Old Cutler Road
Miami Florida

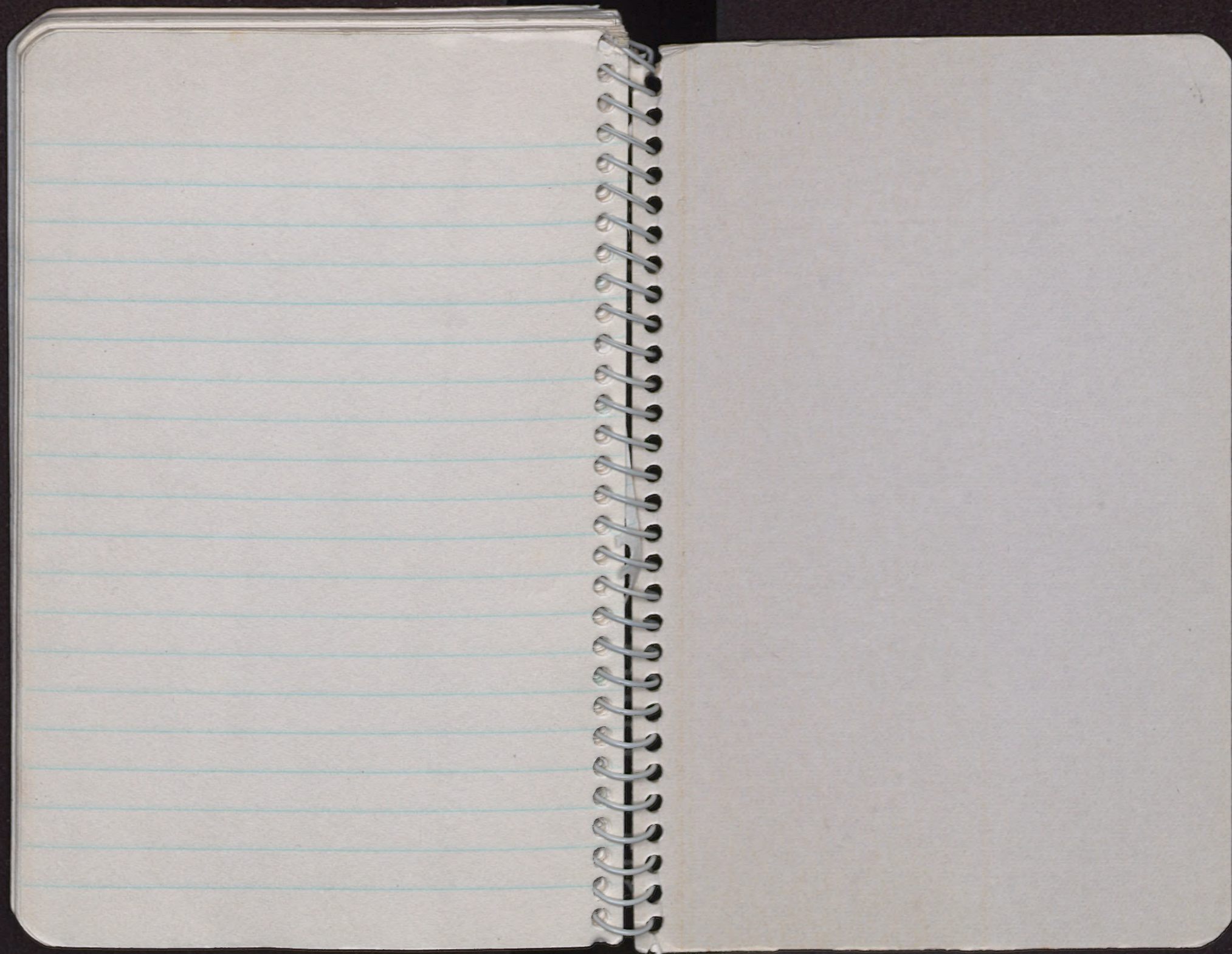
Estamos interesados en un informe sobre la ~~anatomía~~ morfología de la raíz de las palmeras, específicamente si presenta pelos radicales, para la absorción de Agua y minerales; y en caso negativo que partes, y como ~~la~~ la raíz cumple esta función.

Esta información la solicitamos estudiantes de Agronomía ~~de la~~ de la facultad de Ciencias Agrícolas ^{de Palmira} de la Universidad Nacional de Colombia Sur América, que adelantamos estudio sobre la palma de Chontaduro *Bactris gasipaes* H.B.K. y por referencia al Dr. Richard Pohl. Esperamos establecer como precedente con Ud. ~~al~~ por ser especialista a nivel Internacional.

Cordialmente,

Fernán Pava,
Eduardo Cortijo,
Gabriel de la Cruz,
Alvaro González.

P.D. c/¿. información favor enviarla al apartado correo 443 de la ciudad de Palmira (Vallé), Colombia Sur América.



INPA

INPA

MADE IN JAPAN